

## Abstract

The present invention relates to a control unit (1) for controlling safety-critical applications (5), having a microcomputer (MC), a monitoring unit (CU, check unit), and peripheral circuits (IO, input/output). To further improve the reliability of the error detection for such control units, and to expand the detection to additional error types, a control unit (1) of the indicated type is proposed in accordance with the present invention, the monitoring unit (CU) having first means for measuring the quiescent current of the microcomputer (MC); at least one quiescent current handshake line (IDDQ-HDSHK) for controlling the measurement of the quiescent current running between the first means of the CU and the MC; the CU having second means for applying a test data input signal to the MC, for processing the test data input signal, and for comparing the corresponding test data output signal of the MC to the corresponding test data output signal of the CU; and at least one test data signal transmission line running between the second means of the CU and the MC.

(Figure 2)

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